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ABSTRACT

Since 1992, teachers in the Rosemead (California) school district, an urban district east of downtown Los Angeles, have been implementing "Different Ways of Knowing" (DWoK), an integrated interdisciplinary curriculum and teacher development program created by the Galef Institute of Los Angeles. DWoK has been implemented in the Rosemead school district in a partnership between the school district and the Galef Institute funded by the Stuart Foundations. This report is the executive summary of the 1994-95 evaluation report. The professional development activities of the partnerships were studied and the relationships between key partnership activities and key structural, behavioral, and learning outcomes were traced. The evaluation staff made 146 structured classroom observations during the school year. In addition Rosemead students and comparison-group students participated in attitude surveys and social studies content knowledge activities. Evaluation findings show that the partnership is achieving a coherent and sustained program of professional development through the DWoK model. Teaching practices show the effects of using DWoK materials and the effects of collaborative learning focused on thematic, integrated teaching. Students show continued advances in acquiring deep social studies content knowledge and positive achievement motivation that appear to be associated with the instructional environments and activities promoted by the DWoK-Rosemead partnership. (SLD)

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HOW CAN DIFFERENT WAYS OF KNOWING IMPACT A LEARNING COMMUNITY?

Summary of the Rosemead School District 1994-95 Evaluation Report
by James S. Catterall, Ph.D., Jeanne P. Dreyfus, Ed.D.,
and Karen G. DeJarnette, Advanced Doctoral Student

Since 1992, teachers in the Rosemead (Calif.) School District have been implementing *Different Ways of Knowing*. Rosemead is situated east of downtown Los Angeles. Two-thirds of Rosemead students are from economically disadvantaged families. More than half are Latino and more than one-third are recent Asian immigrants. About one-third of the students are considered limited-English proficient; 28 different home languages are represented in the student body.

From 1992-1995 the Stuart Foundations helped to launch a DWoK-Rosemead partnership and supported development of an infrastructure so that Rosemead could sustain the reform. To assess the impact of DWoK on student learning and on the learning community, a UCLA evaluation team has used multiple assessment tools. Rosemead teachers responded to interviews and surveys, and researchers observed their classrooms. In addition, DWoK students and comparison-group students participated in attitude surveys and social studies content knowledge activities. The 1994-95 evaluation report of *Different Ways of Knowing* in Rosemead includes the following:

Improved Student Achievement and Attitudes Toward Learning

- Rosemead students' responses to problems posed in a social studies content knowledge assessment were more detailed and elaborate than responses from comparison-group students.
- Samples of student work showed them making interdisciplinary connections.
- Student art samples demonstrated students' ability to communicate detailed responses through visual images and symbols, at times going beyond their ability to communicate the same ideas verbally.
- *Different Ways of Knowing* students at all grade levels believed that their personal efforts helped them succeed in school. This belief began declining for comparison-group students around fifth grade.
- Rosemead's *Different Ways of Knowing* students liked being at school; they demonstrated engagement and interest in learning.

Positive Changes in Teachers' Attitudes, Instructional Strategies, and the Learning Community

- Ninety-two percent of Rosemead teachers reported they have changed the quality and content of their curriculum program to increase students' levels of engagement.
- Researchers observed integrated, interdisciplinary activities—teachers integrating social studies themes with the visual and performing arts, language arts, science, and mathematics—in the majority of lessons observed.
- The majority of teachers found support study group meetings within and across school sites helpful in exchanging ideas about DWoK implementation. Researchers saw that the teacher-directed meetings provided opportunities for leadership and that teachers became less isolated as a result of participating in them.
- Sixty-nine percent of teachers reported increased interaction with students as a result of *Different Ways of Knowing* participation.

The researchers concluded that the ongoing partnership between Rosemead educators, the Galef Institute, and the Stuart Foundations has created a thriving learning community—one that is moving toward self-sufficient District ownership and leadership.

I think what we have is something spectacular...I am especially proud of my staff. None of this came very easily—it takes lots of planning. The collaboration takes time. Now, when teachers visit each other's classrooms, they are continually amazed at what is being done.

—Rosemead Principal

The Galef Institute -- Stuart Foundations
Rosemead School District Partnership

Different Ways of Knowing

1994-95 Evaluation Report --Executive Summary¹

I. Introduction

This report documents and evaluates the third year of a partnership for organizational and instructional change in the Rosemead, California School District. The centerpiece of the partnership is the integrated, interdisciplinary curriculum and teacher development program titled *Different Ways of Knowing*. This program is a creation of the Galef Institute of Los Angeles, whose staff assist with implementation.

Professional growth aimed at improved student learning was the chief concern of the Partnership. A series of district-wide professional development days, teacher study groups, on-site assistance by Institute staff consultants, and overall coordination by a Galef Institute staff leader were the principal activities.

Since 1992, The Stuart Foundations of San Francisco have provided financial support to the Institute for ongoing development of *DWoK* and to the Rosemead schools for the implementation of the partnership program. The Stuart Foundations also funded this evaluation research.

The setting. Rosemead is situated east of downtown Los Angeles and serves 3050 students in grades kindergarten through six in four schools. Two-thirds of Rosemead students come from economically disadvantaged families. More than half are Latino and more than one-third are recent Asian immigrants. About a third of the students are considered limited-English proficient; 28 different home languages are represented in the student body. All ninety-one teachers, the four school principals, district administrators, and paraprofessionals consider themselves members of the partnership.

Goals of the study. The research team pursued two goals. One was to document and appraise the various professional development activities supported through the partnership. A second was to trace relationships between partnership activities and key structural, behavioral, and learning outcomes. Among these were teacher and administrator views of their roles in the Rosemead learning community, the classroom learning environment including teaching practices, and student learning and achievement motivation.

The full report presents both descriptions and appraisals of these core activities. The evaluation design was multi-faceted. Research staff attended all formal workshops. We probed reactions of Rosemead teachers and administrators through systematic observation, interviews, and surveys. We made 146 structured classroom observations during the school year.

¹ This report was produced by Professor James S. Catterall, Assistant Dean at the UCLA Graduate School of Education & Information Studies, Jeanne P. Dreyfus, Ed.D., and Ms. Karen G. DeJarnette under the terms of a contract with the Galef Institute of Los Angeles. September 1995.

To assess student learning, we gave Rosemead and comparison-group students opportunities to demonstrate social studies content knowledge through written problem solving exercises. We also probed achievement motivation of students through a standard attitude questionnaire. We include in the full report examples of the student work produced for our assessments as well samples of teacher and administrator comments.

Observations and Findings

This Summary presents the highlights of the full evaluation report -- a guide to the contents of each of the seven major sections of the report and the major findings and conclusions reached by the evaluation team.

II. The Professional Development Program

The partnership identified three goals for 1994-95. First, the partnership concentrated its efforts on establishing Thematic/ Integrated/ Inter-disciplinary Instruction (TI³) as the primary approach to learning and instruction. Second, the partnership sought to identify on-site teacher facilitators and provide them with leadership skills. Third, *DWoK* trainers and district personnel sought to define and develop processes and district structures which would promote local ownership of the *Different Ways of Knowing* program in Rosemead.

The professional development program included four district-wide learning days, ongoing planning guidance from the Implementation Team, support study groups where faculty could work with other district teachers at their grade levels, on-site assistance for teachers, and overall coordination by an Institute facilitator.

Reactions of Principals to Professional Development. District Principals expressed very high levels of satisfaction with the progress of professional development under the partnership during this school year. One principal commented:

I think what we have is something spectacular. I am especially proud of my staff. None of this came easily. It takes lots of planning. The collaboration -- it takes time. We are all kind of new at this. So often you had to ask the person next door. When the teachers visit the other teachers in other classrooms, they are continually amazed at what is being done.

Teachers' Reactions to Professional Development. Two-thirds of the teachers reported that their beliefs and attitudes about how children learned were affected by their participation in the *DWoK* program this year. When the teachers were asked if they had changed the quality and content of their curriculum program in ways that increase students' levels of engagement, 92 percent answered *yes*.

Teachers reported using more group work for assessment, as well as more "kid watching"² and reflective student writing in their classroom assessments. Fifty-seven

² "Kid watching" refers to systematic observation of children to learn about their levels of knowledge, styles of learning, and responses to instructional practices encouraged through *DWoK* training and the curriculum modules.

percent reported that the DWoK program caused changes in their methods of student assessment. Seventy-five percent of teachers reported using the DWoK modules.

When speaking about the Institute-provided partnership coordinator, one teacher commented that the facilitator was:

...an excellent representative for Galef. She is easy to understand, patient, warm, and friendly. Her expertise is very evident. She talks to us, not at us. She solicits our suggestions and questions. And she made the workshop very enjoyable as well as informative.

II. Implementation Team and Support Study Groups

The partnership is guided by a representative Implementation Team which plans development agendas and activities, and which holds discussions regarding the content of training opportunities, such as thematic teaching.

One hundred percent of the teachers who participated as members of the Implementation Team said that their involvement increased their knowledge of interdisciplinary learning and instruction. Eighty-three percent of teachers said that Implementation Team participation increased their awareness of the issues involved in developing subject matter discipline knowledge. One teacher wrote,

I believe the connections I'm making in the disciplines are on a deeper level and more consistent because I've considered TI³ from a different perspective.

Support study groups were meetings of teachers from the same grade across all four schools. Two study groups at each grade level met during 1994-95.

Common reactions of teachers to the support study groups were that they were the best part of the year's efforts and good ways for teachers to surface and express their needs and to share ideas and successful strategies.

Overall Appraisal of the Professional Development Program.

The professional development program seems to have capitalized on two fundamental strengths. One was that the processes of determining program governance and the creation of its agendas were the topics of open discussion and negotiation among key stakeholders in the process -- teachers, district administrators, and Galef Institute staff. The second strength was that the Year III DWoK professional growth and development program sustained the multi-year focus on restructuring learning environments and teaching practices and at the same time supported long term Rosemead district goals.

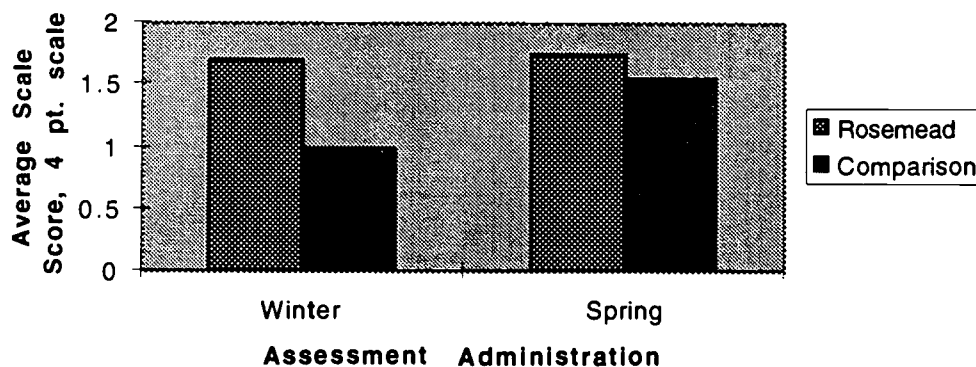
III. Student Content Learning

The second primary goal of this assessment was to test whether teacher participation in *DWoK*, and resulting changes in instructional practices and learning environments, contributed to student content knowledge and student ability to incorporate interdisciplinary thinking when approaching social studies topics and problems.

We assessed student learning through written writing samples. Our prompts asked students to grapple with problem situations stemming from their social studies curriculum. We compared their performances to a control sample, and also considered Rosemead student performance in contrast to student performance in previous evaluation studies for this partnership.

Rosemead students outperformed comparison students, as shown in the following figure. Our four point scale indicates increasing levels of content knowledge demonstrated. A score of two suggests that students substantially answered the problem and provided several related facts, or facts that are elaborated with supporting details. A score of 1 typically means that a couple of relevant facts are mentioned but are not elaborated or connected into a coherent problem solution.

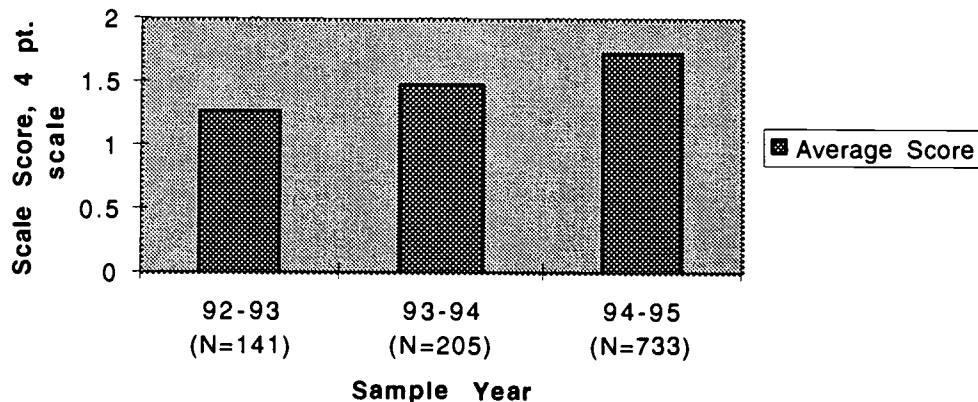
**Social Studies Content Assessment
Scores, Rosemead vs. Comparison
Students, Winter and Spring, 1995**



The “catching-up” sort of pattern for the comparison students seems attributable to increasing familiarity with the assessment format for this group. Our student assessments behaved more like repeated measures of knowledge than a longitudinal assessment of learning gains. We explore the implications of this with additional analyses in the full report.

We also found that student performance in 1994-95 continued a trend of increasing levels of demonstrated student content knowledge over three years of using such assessments in Rosemead. Students this year were more likely to show elaborated responses to social studies problems. Our 1992-93 assessment showed many more cases of limited and disconnected information. The three-year trend is shown in the next figure:

Social Studies Content Scores on Student Writing Samples, 1993 through 1995



Interdisciplinary Learning. Despite seeing widespread evidence of at least some interdisciplinary teaching in Rosemead classrooms through our classroom observations discussed below, the student assessments showed little interdisciplinary reasoning or approaches to problem solving in our content assessments. This absence held for both the Rosemead students and the comparison students. We did find, however, that in 35 interviews that discussed student work in depth, students *were* able to make explicit clear interdisciplinary connections about their work. These interviews reported in a booklet illustrated with photographs and examples of work appended to the full report. We offer suggestions for our assessment design and for further development of interdisciplinary teaching strategies in the full report.

IV. Student Art

The social studies content assessment exercises used for this study invited students to include drawings in their responses. This section of the full report displays examples of student work and discusses how we approached assessment when multiple forms of expression were solicited.

We found that students achieved important outcomes through their artistic endeavors. Many provided more details in their drawings than in their writing, showed their ability to think through the questions, and constructed their answers in visual images and symbols.

We conclude that the use of visual representations as part of how children process and convey information is a very powerful vehicle for many children. The drawings we obtained in this work provide strong evidence that many children go beyond their written

words when they visualize the problem situations. A central activity of the classroom is representation and discussion of curricular ideas and topics; the kinds of representations we obtained here would make valuable contributions to classroom discussions, and we hope teachers seeing examples of this student work may be inspired to provide additional ways to use visual art in their regular classroom activities.

V. Student Achievement Motivation

We continued our multi-year assessment of student attitudes and orientations associated with achievement motivation for this study. Through a spring term survey of students, we examined five areas considered important in connection with the teaching and learning principles emphasized by *Different Ways of Knowing*. These are also scales for which valid baseline measures had been established in our previous work. The attitudes examined were:

Intrinsic Motivation: The degree that students are motivated to learn social studies-related ideas because of their intrinsic interest in the topics being studied, as opposed to learning in order to acquire extrinsic rewards, such as academic grades and teacher, parental, or peer praise.

Belief in the Value of Personal Effort: The degree to which students believe that students get ahead and learn in school because of the efforts they put into learning, and not simply according to who is smarter or who has more ability.

Mastery Orientation: The degree that students are motivated by desires to master subject matter, as opposed to ego-oriented desires to appear or feel smart, or to feel smarter than others.

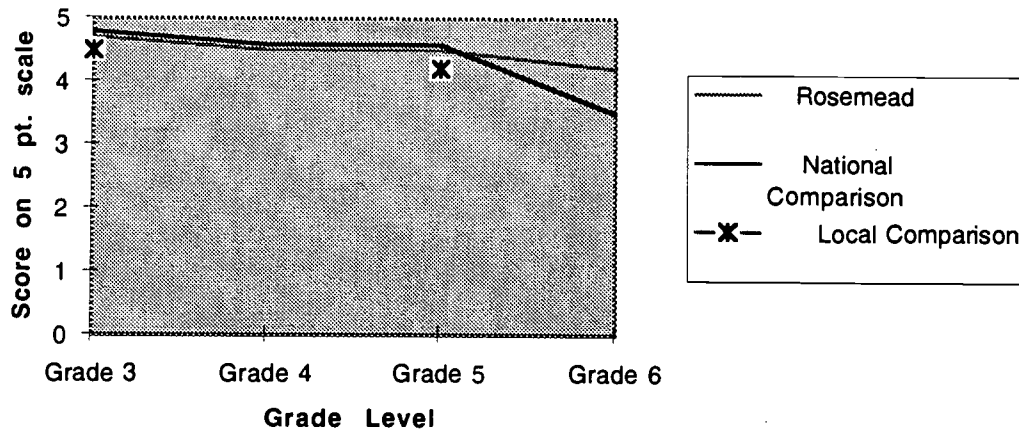
Active Cognitive Engagement: The degree that students are actively engaged with their school work, and not simply pursuing school activities in order to get them done or out of the way.

Liking School: The degree students agree with statements indicating that they like being in school.

In general, Rosemead students in 1994-95 show achievement motivation profiles similar to and somewhat higher than those of students in our national study. Comparison group students were assessed in only grades 3 and 5 and show profiles similar to the Rosemead students.

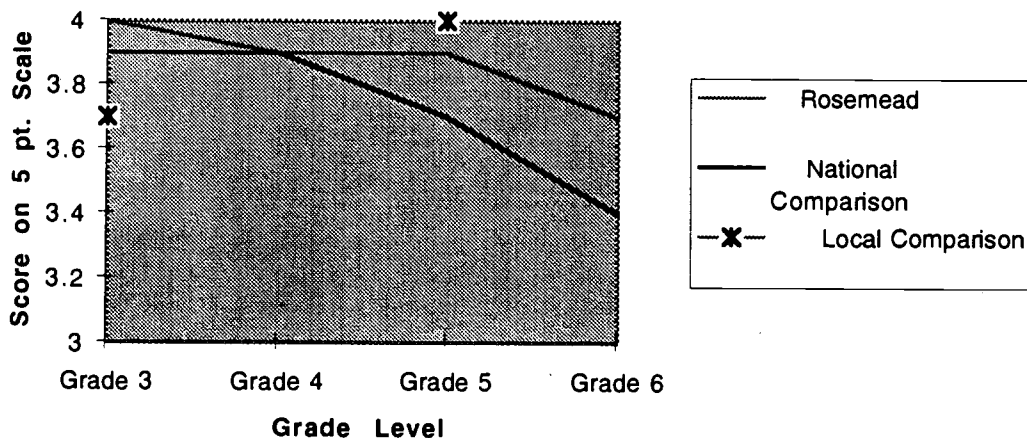
DWoK has shown significant effects on several motivation-related attitudes in other controlled studies. One such attitude is student beliefs in the value of their own efforts to achieve in school. Belief in the importance of effort is one variable that usually declines as students get older. Our measures of this motivational attitude are displayed in the following figure from the report, where Rosemead students sustain high levels through grade 6:

Figure 7: Belief in Value of Personal Effort by Grade Level, Rosemead vs. Comparison Schools



We see even more dramatic results for student active cognitive engagement, where typical patterns of erosion over the elementary grades are considerably restrained for the Rosemead students as shown in the following figure:

Figure 10: Active Cognitive Engagement by Grade Level, Rosemead vs. Comparison Schools



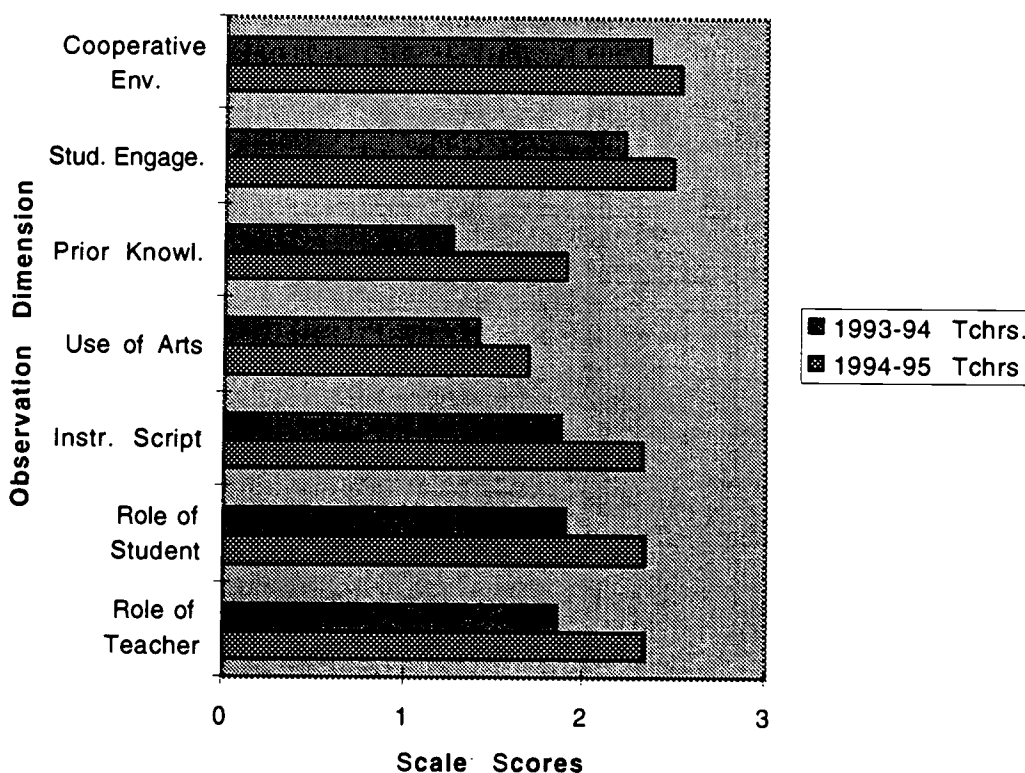
Overall, Rosemead students appear to like school and to maintain positive basic orientations and attitudes about school and learning as they proceed through the elementary grades. Their profiles are consistent with, and slightly more positive than, related to *Different Ways of Knowing*. Particularly encouraging is the apparent maintenance of more positive attitudes and active cognitive engagement through grades 5 and 6, where typical patterns show significant erosion on average.

VI. Classroom Observations

Our research continued a program of classroom observations for Year III. Research related to *DWoK* both in Rosemead and in the national research program has employed a consistent observation instrument over time. This observation protocol directs observer attention to key elements of teaching practice and classroom organization that may be impacted by teacher participation in the program. Twenty five teachers were observed in Year III with a total of 146 classroom visits centered on social studies lessons.

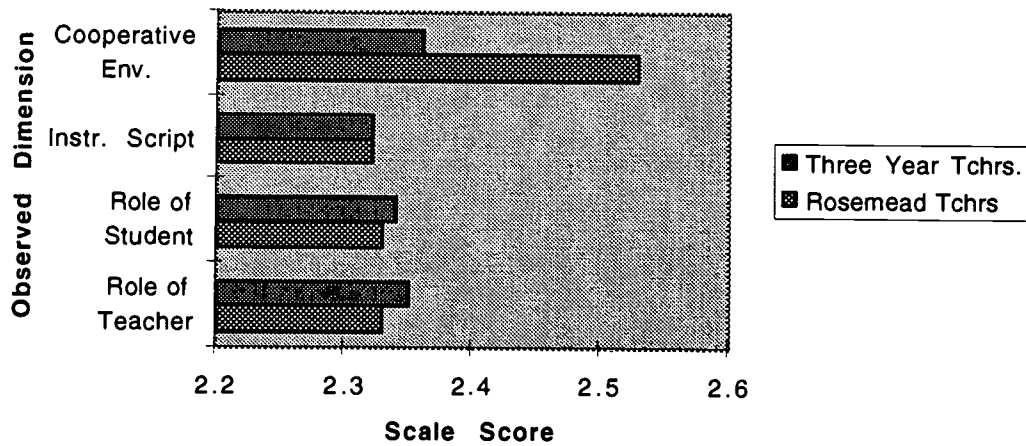
One major finding was that teachers this year scored higher than observed teachers last year on scales related to targeted behaviors and classroom orientations. The differences are illustrated in the following chart from the full report. The higher scores indicate that students and teachers were more actively involved in an environment that encouraged risk-taking, and where students' prior knowledge and artistic expressions were infused into the learning process.

**Classroom Observation Scores, 1994-95
versus 1993-94**



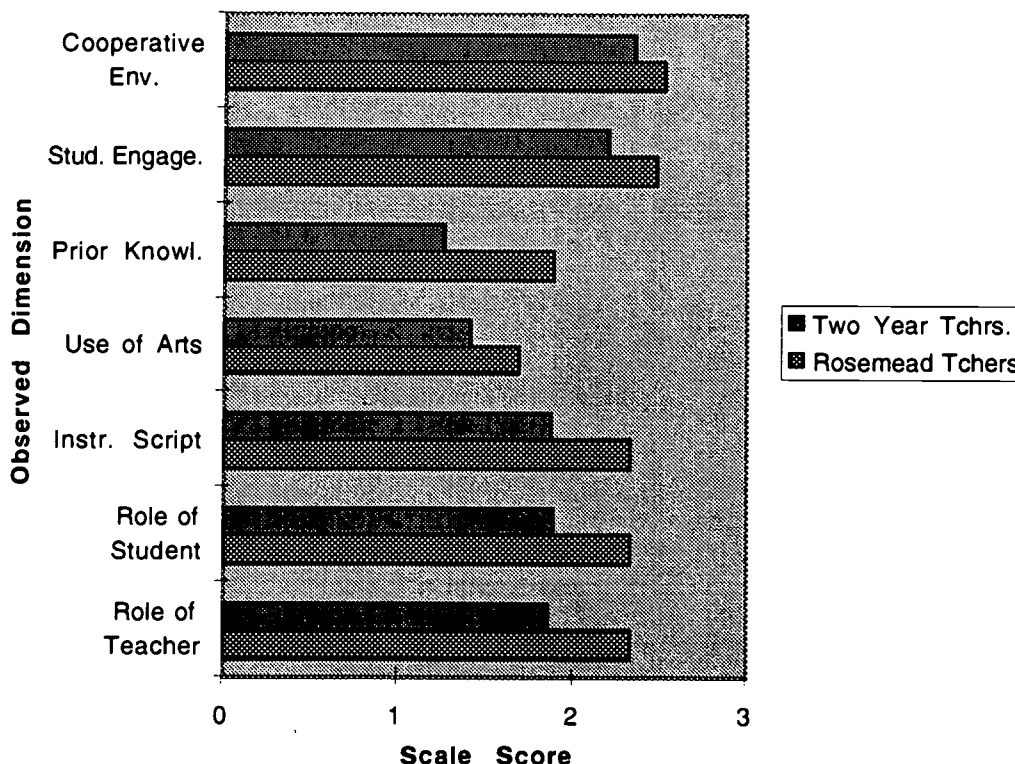
This year's Rosemead teachers also kept up with or compared favorably to the subset of observed third year *DWoK* teachers from our national study, as shown in the next figure:

Classroom Observation Scores, Rosemead vs. Three-Year Teachers in National Study



Not surprisingly, Rosemead teachers outscored, by an even wider margin, teachers from the national study with *two* years of program experience, shown as follows:

Classroom Observation Scores, Rosemead vs. Two-Year Teachers in National Study



Observations of Thematic Instruction. Classroom researchers found that an overwhelming majority (96%) of observed teachers and students engaged in at least some activities that fit our descriptions of thematic, integrated, interdisciplinary learning and instruction. Of the 146 lessons observed over the school year, seventy-eight percent included some TI³ activities. We observed interdisciplinary instruction in one form or another in the majority of lessons observed, both for lessons explicitly connected to *DWoK* modules and for others. Using various global themes or topics, teachers integrated social studies with one or more other disciplines.

We observed social studies being integrated with various subjects: the visual and performing arts (28% of integrated lessons), language arts (19%), science (12%) and mathematics (8% of integrated lessons). We also observed instances of the visual arts being integrated with other subjects: language arts (11% of integrated lessons), mathematics (7%), and science (6%).

Observed teachers were almost equally divided in their TI³ activities between presenting simple, single integration of two disciplines with little or no overt connections (48% of interdisciplinary activities) and presenting moderately complex integration of disciplines with simple explicit connections (47%). The remaining 5% percent of TI³ activities showed multi-layered, complex integration of different disciplines.

DWoK Modules and TI³. Teachers who used the DWoK module themes and activities extensively almost universally displayed more in-depth thematic, integrated, interdisciplinary instruction than those who did not.

The inclusion of some form of TI³ in the majority of observed lessons indicated widespread willingness on the part of Rosemead to experiment with alternative instructional methods. This suggests that the teaching staff is making progress on the district goal of providing thematic, integrated, interdisciplinary learning and instruction for all of its students.

At the same time, TI³ implementation for many Rosemead teachers remains at a very basic and formative stage. We would call attention to two areas where additional advancements could be pressed. First, we observed very little *explicit* connection-making between and among disciplines in classrooms, either by the teachers or by the students. By this, we mean that even though interdisciplinary discussions were evident, little effort was made by teachers or students to step-back and call attention to what was transpiring, either for purposes of reflection or to propel activities to higher and richer levels of interdisciplinary thinking. A second factor limiting the levels of interdisciplinary instruction we observed appears to us to be the limited use of DWoK modules in many classrooms. While about two thirds of teachers report using the modules with some frequency, only about one-third of our observations sessions provided evidence of module use.

VII. Teacher Survey

We administered a brief teacher survey during the last professional development Learning Day in May 1995. The goals of the survey were to assess how teachers viewed the usefulness and impact of the DWoK partnership in their classrooms and the effects of the partnership on the larger learning community in Rosemead. Our major findings:

Did DWoK prompt instructional changes? Fifty-one percent of the teachers responding to this question reported that the DWoK program caused *permanent changes* in the instructional themes promoted in their teaching and in their integrated / interdisciplinary approaches to instruction. Some teacher comments:

I have become more confident in using less traditional approaches.

I provide a more challenging, integrated curriculum. I attempt to totally engage the students in as many modalities as possible in each lesson

Ninety-two percent of teachers reported that they have changed the quality and content of their curriculum program to impact the students' levels of engagement; only eight percent of teachers reported to have made no such changes. Teachers said that they now use more integrating of visual and performing arts. Comments included:

We use all of the arts more readily in all subject areas.

Some teachers reported using more co-operative groups, and more 'why' questions in classroom discourse. One elementary teacher explained,

I use more cooperative learning and more hands on activities, I try to keep all involved most of the time.

Sixty-five percent of teachers said that their participation in the *DWoK* program this year has affected their beliefs and attitudes about how children learn. Thirty-five percent of the teacher's claimed that their beliefs and attitudes stayed the same. These latter teachers seemed to represent those for whom many core ideas underpinning *DWoK* come naturally, or who had made great strides under previous years of working with the Institute. Comments offered by teachers included:

I've learned to let them learn how they learn best.

I'm more aware of the multiple intelligences.

My beliefs are convictions now. Galef has affirmed me as a teacher, a person, and as a professional.

Teacher use of the *DWoK* modules. Four questions on the survey addressed teacher use of the *DWoK* modules, along with the supplemental resource table materials, in their classroom instruction. Seventy-five percent of the teachers reported they used a *DWoK* module in their classroom this year. Teacher comments referring to the modules:

Galef has helped me to see my kids are ready for more than I was giving them.

I modified usage this year to make it more appropriate to our theme.

Thirty-one percent of the teachers said that they used the modules often, and thirty percent said they use the module *more than often* in their instructional programs this year. In addition, twenty-eight percent reported using the resource table materials *often* this year and forty-seven percent use the resource materials *more than often*.

Teacher views of the support study groups. One hundred percent of the teachers given a question about the study groups found this model to be helpful and said that they should continue. Teacher comments:

This has been the best part of Galef.

They [the study groups] are an important vehicle for expression of teacher needs.

Teacher views of the learning community. Ninety-two percent of teachers reported that as a result of their participation in *DWoK*, they experienced an increase in collaboration with peers *at other school sites* regarding education, student, and curriculum issues. Seventy-three percent reported an increase in the collaboration with teachers *in their own school sites*. In addition, sixty-nine percent of the surveyed teachers claimed an increase in their interactions with students as a perceived part of their learning community as a result of *DWoK* participation.

VIII. In the Teachers' Words:

Four Rosemead teachers from our observation sample representing three of the four elementary schools volunteered for in-depth interviews and classroom video-taping concerning their experiences with *DWoK*. These recordings were produced professionally and run a total of about 10 hours. The final section of the report brings out in their own words teacher discussions of the impact of the *DWoK* program shown on these videotapes. They hold forth on the effects of the partnership on integrating the curriculum, their experiences with the *DWoK* modules, and their experiences with the use of the arts. We provide a few samples here:

1. The impact of the *DWoK* program:

The concepts of Choice, Chance, and Change are the three words I've organized all of my curriculum around this year. I see thematic teaching not using a particular subject or topic, but to see it with big ideas. That came from Galef ... to see how the different ways that people approach the multiple intelligences and how people make connections. I am just constantly enthralled at how kids take information and go with it.

2. Effects on integrating the curriculum

We're doing a lot of thematic teaching this year and our overall theme is families and family life. We use a lot of story-telling. I think next year we will pull in more parents and grandparents to share their stories. The more connections and the more kids are involved, they feel a part of it. They just can't sit still at the desk, they have to put their hands on things. They love the activity.

3. Experiences with the *DWoK* modules

The module is a wonderful tool. We learn and change with it. The module lends itself to integrating the curriculum, it is geared that way. In all areas you can tie it in with different lessons. And the library that comes with the module has beautiful stories that cross all boundaries.

4. Experiences with the use of art

I have to have color and splash. It keeps me coming back. I can't stand routine, and I think children feel safe with routine ... but it is important for us to teach them that routine is not the only way, or the only healthy way. They will become explorers, they become free and that's what I've seen with this group--the freedom to move out. There is not just one way, there are many ways to get in the door and to expose what you know.

So you set the environment up so that it is possible for the razzle/dazzle, the color ... the music gives them an alternative way. I think that in the arts, the doors open. By their very nature, dance, music and art are explosive and they are not rote and not expected. It's pulling forth something from inside your soul, and that is much more important for me ... to see beyond where Columbus discovered America in 1492.

I have one little Asian student who is very reserved and one day I put on music. And he came up and I never saw such a dancer in all my life. I think using the DWoK program helps our students tremendously.

Summing Up

This evaluation study addressed many facets of teaching and learning in the Rosemead School District community during 1994-95. It is difficult to do justice in a brief summary to the areas illuminated by our inquiries, and we encourage stakeholders to read the full report and attend to questions of particular interest concerning the nature and effects of the partnership.

Our overriding reactions are these:

The partnership is achieving a sustained and coherent program of professional development focused on instruction and student learning through its use of *Different Ways of Knowing* and its support structures. The professional development agenda has moved toward district ownership and leadership, and away from models requiring Galef Institute initiative.

Teaching practices show increasing effects of using DWoK materials as well as the effects of collaborative learning focused on thematic, integrated teaching. As would be expected, interdisciplinary teaching practices exhibit early developmental levels for many teachers. Therefore sustaining efforts to enhance integrated teaching appears to be an important future goal. The support study groups where teachers work with colleagues at the same grade levels were very well received and reported to be very effective this year. The study group model warrants increased emphasis for continued teacher learning.

Rosemead students show continued advances in acquiring deep social studies content knowledge and positive achievement motivation that appear to be associated with the instructional environments and activities promoted by the DWoK - Rosemead partnership.



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